

Nika Aldrich, OSB #160306
Email: naldrich@schwabe.com
SCHWABE, WILLIAMSON & WYATT, P.C.
1420 5th Avenue, Suite 3400
Seattle, WA 98101
Telephone: 206-622-1711
Facsimile: 206-292-0460

Attorney for Plaintiff

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF OREGON
PORTLAND DIVISION

WAVECEL, LLC, an Oregon Limited
Liability Company,

Plaintiff,

vs.

STUDSON, INC., a Delaware corporation,

Defendant.

No. 3:25-cv-00866

**COMPLAINT FOR PATENT
INFRINGEMENT**

JURY TRIAL DEMANDED

Plaintiff WaveCel, LLC (“WaveCel”) brings this Complaint for patent infringement against Defendant Studson, Inc. (“Studson”) and alleges as follows:

NATURE OF THE ACTION

1. This action concerns intellectual property related to protective helmets.
2. This action is based on the patent laws of the United States, 35 U.S.C. §§ 1 *et seq.*
3. This action arises out of Defendant’s making, using, selling, and offering to sell

protective helmets that violate WaveCel's U.S. Patent No. 10,834,987 (the "'987 Patent").

THE PARTIES

4. WaveCel is an Oregon limited liability company with its principal place of business in Wilsonville, Oregon.

5. On information and belief, Defendant Studson is a Delaware corporation having a principal place of business in Tigard, Oregon.

JURISDICTION AND VENUE

6. This action arises under the patent laws of the United States, 35 U.S.C. §§ 1 *et seq.* This Court has original subject matter jurisdiction over such claims pursuant to at least 28 U.S.C. §§ 1331 and 1338(a).

7. This Court has personal jurisdiction over Studson because Studson resides within this district and regularly conducts business in this district. On information and belief, Studson also has committed and continues to commit acts of patent infringement in this district including by making, using, offering to sell, and/or selling infringing helmets.

8. Venue is proper in this judicial district under 28 U.S.C. § 1400 at least because Studson resides in this district and has committed acts of infringement and has a regular and established place of business in this District.

FACTUAL BACKGROUND

A. WaveCel's '987 Patent

9. WaveCel is a leading innovative company in the field of protective helmet technologies. WaveCel was co-founded by Dr. Michael Bottlang, an inventor who has spent more than 15 years working on helmet design technologies to improve safety, and Dr. Steve Madey, a surgeon who has collaborated with Dr. Bottlang on numerous innovations.

10. Since 2003, Drs. Bottlang and Madey have been conducting groundbreaking research on advanced testing and designs of helmets to better prevent brain injury, documented by a series of peer-reviewed publications in scientific journals. They were awarded grants from the US National Institute of Health for seven years to optimize and translate their innovative helmet technologies into safer helmet products.

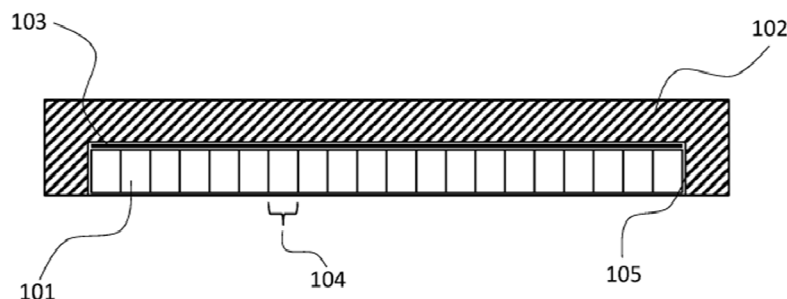
11. WaveCel's focus is on revolutionary materials and construction approaches to protective helmets that reduce concussion risk.

12. One concern when designing a helmet is mitigating rotational head acceleration, in order to reduce the risk of brain injury.

13. WaveCel's '987 Patent discloses an impact absorption system that acts as a torsional suspension system for use in protective helmets, to shield the head from linear and rotational acceleration.

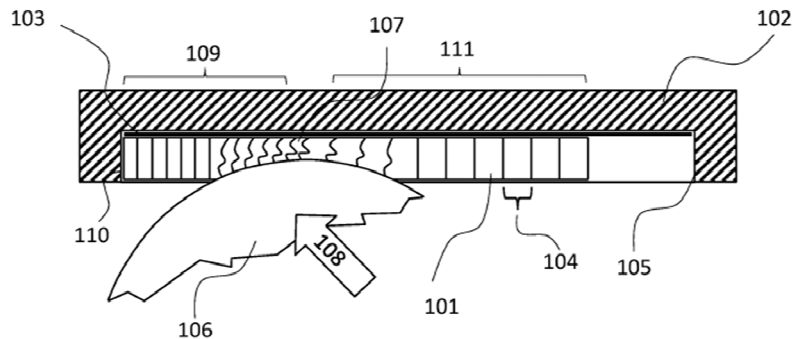
14. The '987 Patent discloses use of an anisotropic cellular liner that is at least partially recessed inside a rigid polymer foam shell. Cellular structures such as honeycomb are anisotropic. The patent's Figure 1A shows a cross-sectional view of an anisotropic cellular liner **101** within a rigid foam liner **102** and a barrier layer **103**.

Figure 1A



15. Figure 1B illustrates the same cross-sectional view of Figure 1A, but during impact, the head **106** of a user/wearer subjects the cellular liner to in-plane compression, out-of-plane compression, and shear.

Figure 1B

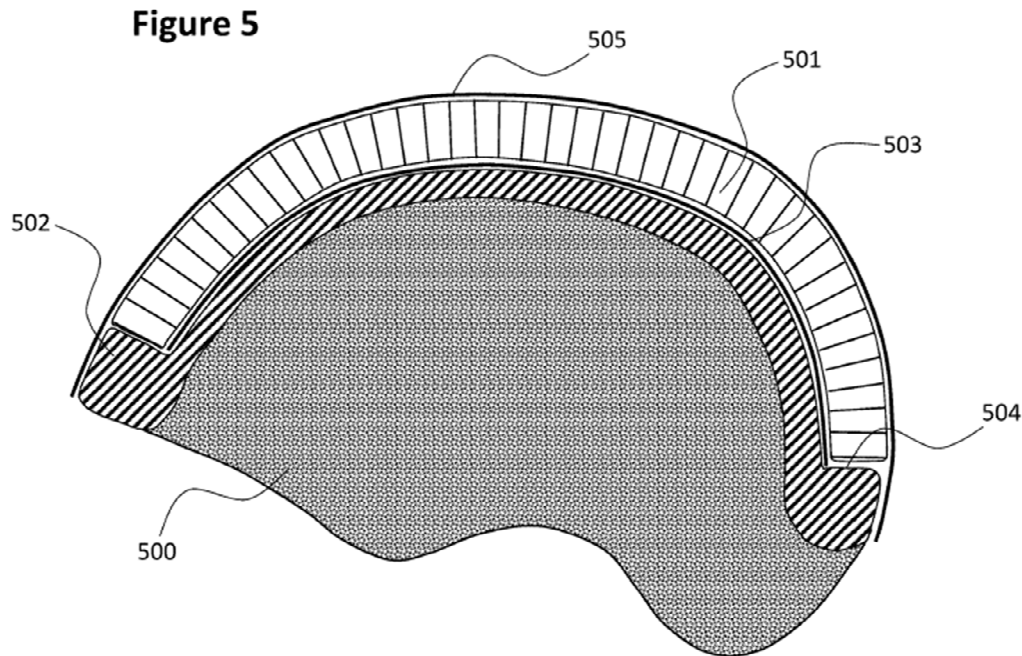


16. The in-plane compression is evident by cell densification in section **109**. Section **111** does not exhibit in-plane compression, since it travels away from the edge of the foam liner **105**. In this design, barrier layer **103** provides a gliding interface, which, when combined with the geometric constraints **105** and **110**, enables partial in-plane compression of only a section of the cellular liner. The intervening barrier layer **103** thus allows the cellular layer to be separated from the rigid foam liner, and for it to slide within a recess in the rigid foam liner **102**.

17. This barrier layer also prevents the cellular liner's cells from penetrating into the surface of the foam liner upon impact, which would restrict relative sliding between the cellular liner and the foam liner.

18. Figure 5 of the '987 Patent shows an embodiment wherein the cellular liner **501** is recessed in the outside of a rigid polymer foam liner **502**, and a barrier layer **503** is at the interface between the cellular liner **501** and the rigid foam liner **502** to facilitate gliding of the

cellular liner.



19. Claim 1 of the '987 Patent recites as follows:

A protective helmet, comprising:

an anisotropic cellular liner with a compressive stiffness that is lower in-plane than out-of-plane;

a rigid foam liner; and

a barrier layer between the anisotropic cellular liner and the rigid foam liner, wherein the barrier layer prevents penetration of the anisotropic cellular liner into the rigid foam liner,

wherein the anisotropic cellular liner is at least partially recessed in a recess formed in the rigid foam liner, wherein the anisotropic cellular liner and the recess are sized such that the anisotropic cellular liner is confined and retained in the recess of the rigid foam liner by a friction fit, and wherein the barrier layer facilitates relative sliding of the anisotropic cellular liner within the recess of the rigid foam liner and with respect to the rigid foam liner.

20. The '987 Patent names five inventors including Dr. Bottlang and Dr. Madey. The inventors filed their patent application on March 3, 2017, claiming priority to U.S. Provisional Patent Application No. 62/303,884, filed March 4, 2016, entitled "Protective Liner for Helmets

and Other Articles.” The ’987 Patent was filed as a continuation-in-part of U.S. Patent Application No. 13/803,692, which was filed on March 14, 2013, and which claims priority to U.S. Provisional Patent Application No. 61/670,258, filed July 11, 2012, entitled “Protective Helmet for Mitigation of Linear and Rotational Acceleration.”

21. The U.S. Patent & Trademark Office duly issued the ’987 Patent on November 17, 2020.

22. The ’987 Patent remains in full force and effect, and has a presumption of validity.

23. The ’987 Patent was originally assigned to Apex Biomedical Company, LLC, and has since been assigned to Plaintiff, WaveCel, LLC.

B. Studson’s Infringing Activities

24. Studson has been offering to sell and selling helmets that infringe the ’987 Patent. Upon information and belief, Studson has also manufactured, imported, and used helmets that infringe the ’987 Patent.

25. For example, Studson makes a series of helmets referred to as the SHK-1, an example of which is shown below:



26. The SHK-1 is a protective helmet.

27. The SHK-1 has an anisotropic cellular liner with a compressive stiffness that is lower in-plane than out-of-plane. For example, the photographs below are of the inside portion of the helmet after having been removed from the outer shell. The four green, honeycomb portions are anisotropic cellular liners, each with a compressive stiffness that is lower in-plane than out-of-plane:



28. The SHK-1 also has a rigid foam liner—the charcoal grey colored structure in the images above.

29. The SHK-1 also has a barrier layer between the anisotropic cellular liner and the rigid foam liner. For example, in the image below, the green honeycomb anisotropic liners have been removed from the charcoal grey rigid foam liner. A black plastic barrier is shown, which extends under the recess for the center green honeycomb anisotropic liner section:



30. This barrier layer prevents the green honeycomb section that sits on top of it from penetrating the foam beneath it.

31. In the SHK-1 helmet, the anisotropic cellular liner is at least partially recessed in

a recess formed in the rigid foam liner, and the anisotropic cellular liner and the recess are sized such that the anisotropic cellular liner is confined and retained in the recess of the rigid foam liner by a friction fit:



32. With this design, the black, plastic barrier layer facilitates relative sliding of the anisotropic cellular liner within the recess of the rigid foam liner and with respect to the rigid foam liner.

COUNT I

Infringement of United States Patent No. 10,834,987

33. WaveCel restates and realleges each of the allegations of paragraphs 1-32 above as if fully set forth herein.

34. Studson has been making, using, selling, and offering to sell at least its SHK-1 helmets that infringe at least claim 1 of the '987 Patent.

35. Studson's infringement is and has been willful and with full knowledge of the '987 Patent and WaveCel's rights therein.

36. Studson's infringement of the '987 Patent has caused, and unless restrained and

enjoined, will continue to cause irreparable harm to WaveCel that cannot be adequately quantified or measured by monetary damages alone and for which there is no adequate remedy at law. WaveCel is entitled to preliminary and permanent injunctive relief preventing Studson from continuing to engage in patent infringement.

37. As a direct and proximate result of Studson's infringement, WaveCel has sustained actual damages in an amount to be proven at trial, but in no event less than a reasonable royalty.

38. Studson's conduct renders this an exceptional case under 35 U.S.C. § 285, entitling WaveCel to recover its attorneys' fees and costs incurred in this action.

PRAYER FOR RELIEF

WHEREFORE, WaveCel respectfully requests that the Court enter judgment in its favor against Studson, granting the following relief:

- A. A judgment and declaration that Studson is liable for infringement of the WaveCel '987 Patent;
- B. A judgment and order preliminarily and permanently enjoining Studson and its agents, servants, officers, directors, employees, affiliated entities and all persons acting in concert or privity with it, from infringing the '987 Patent, inducing infringement of the patent-in-suit, or contributing to infringement of the '987 Patent;
- C. A judgment and order requiring Studson to pay WaveCel all damages caused by its direct or indirect infringement of the '987 Patent (but in no event less than a reasonable royalty) pursuant to 35 U.S.C. § 284;
- D. A judgment and order finding that Studson's infringement has been willful and

- trebling the awarded damages as provided by governing law;
- E. A judgment and order requiring Studson to pay WaveCel supplemental damages or profits for any continuing post-verdict infringement up until the entry of a final judgment, with an accounting, if needed;
- F. A judgment and order requiring Studson to pay WaveCel pre-judgment and post-judgment interest on any damages or profits awarded;
- G. A determination that this action is an exceptional case pursuant to 35 U.S.C. § 285;
- H. An award of WaveCel's attorney fees, costs and expenses incurred in bringing and prosecuting this action, pursuant to 35 U.S.C. § 285; and
- I. Such other and additional relief as this Court deems just and proper.

DEMAND FOR JURY TRIAL

Pursuant to Fed. R. Civ. P. 38(b), WaveCel respectfully requests a trial by jury of all issues so triable.

Dated this 21st day of May, 2025.

Respectfully submitted,

SCHWABE, WILLIAMSON & WYATT, P.C.

By: s/ Nika Aldrich
Nika Aldrich, OSB #160306

Attorneys for Plaintiff